

REMARKS

In response to the Official Action mailed June 6, 2002, Applicants amend their application and request reconsideration. In this Amendment, claims 6 and 11 are cancelled leaving claims 1-5, 7-10, and 12-16 pending.

In the accompanying Request for Approval of Changes to the Drawings, Figures 1 and 2(a) have been labeled in accordance with the suggestion of the Examiner.

The attached Abstract is being submitted in accordance with the Examiner's requirement.

The word "inventor" in line 8 of page 5 has been changed to --invention-- in accordance with the Examiner's requirement.

Independent claims 1 and 9 as well as independent claims 2 and 10 were rejected under §103(b) as anticipated by Nakayama et al. (EP 0 692 294 A1, hereinafter Nakayama). Because Nakayama fails to disclose each and every element of each of these claims, it is respectfully contented that Nakayama fails to anticipate any of these independent claims.

For example, independent claims 1 and 9 respectively define a filter and a method of making a filter wherein a thickness of a pleat tip region at a point spaced about one to four pleat leg thicknesses from the end of the pleat tip region is less than or equal to about twice the pleat leg thickness. Independent claims 2 and 10 respectively define a filter and a method of making a filter wherein a thickness of the pleat tip region at a point spaced about one to four pleat leg thicknesses from the end of the pleat tip region is less than or equal to a distance between corresponding points on opposing outer surfaces of the pleat legs.

Nakayama fails to disclose these aspects of independent claims 1, 2, 9, and 10. Nakayama does disclose reinforced portions 136 that are formed along the top edges of the ridges 124. However, nothing in Nakayama discloses anything about the thickness of these reinforced portions 136 at any point along the ridges 124, let alone a point spaced about one to about four pleat ridge legs thicknesses from the end of the ridges 124. While various ridges are shown in cross-section in the drawings, these drawings are merely idealized conceptions and provide no basis for inferring the specific dimensional aspects set forth in independent claims 1, 2, 9, and 10. Consequently, Nakayama fails to anticipate any of these independent claims.

Independent claims 3, 4, 5, 7, and 12 were rejected under 35 U.S.C. §102(b) as anticipated by Pall (U.S. Patent 4,184,966). Because Pall fails to disclose each and every element of each of these independent claims, it fails to anticipate any of them.

For example, each of these independent claims define varying aspects related to a pleat tip region of a pleat. Pall fails to disclose any of these aspects of a pleat tip region. Rather, Pall is directed to an improved side seam seal that joins opposite ends of a corrugated

filter sheet. Such side seal seams are completely different from pleats and present problems completely unrelated to pleats. In particular, the side seal seams allow separate, opposite ends of the corrugated filter sheets to be joined to one another. Otherwise, the cylindrical filter element will not function for its intended purpose because fluid will bypass the filter at the unjoined separate ends of the filter sheet. A pleat, on the other hand, is folded over on itself and the two legs of the pleats are inherently joined to one another at the fold. One of ordinary skill in the art would not find any teachings related to a side seal seam relevant to a pleat tip region because a side seal seam is a structure which is separate and completely unrelated to a pleat. Accordingly, it is respectfully contended that Pall fails to anticipate any of independent claims 3, 4, 5, 7, and 12.

Independent claim 8 was rejected under 35 U.S.C. §102(b) as being anticipated by Kadoya et al. (U.S. Patent 5,273,560, hereinafter Kadoya). Because Kadoya fails to disclose each and every element of independent claim 8, it is respectfully contended that it fails to anticipate independent claim 8.

Independent claim 8 defines a method of making a filter comprising forming a plurality of pleats free of bulbous pleat tip regions. Kadoya merely discloses that a filter material is folded in a zigzag manner and fails to appreciate or disclose any problems related to bulbous pleat tip regions. The filter element disclosed in Kadoya is exactly the type of filter element which can be improved by the present invention, i.e., by eliminating bulbous pleat tip regions. Kadoya discloses this zigzag folded filter material 2 in many of its figures. However, these figures are merely idealized concepts and provide no basis for disclosing bulbous free pleat tip portions, especially in light of the failure of Kadoya to mention bulbous pleat tip regions or the problems associated with them. According, it is respectfully contended that Kadoya fails to anticipate independent claim 8.

In re Appln. of WELCH et al.
Application No. 09/720,197

Because all of the independent claims are patentable, it is respectfully contended that the dependent claims are also patentable and that the rejections of the dependent claims are moot.

Respectfully submitted,



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